

characters as the size of flowers should be prefaced by an accurate knowledge of how such characters vary with relative place position on the plant or relative time position in the total period of bloom.

The authors have been able to isolate and maintain a number of races, but further state that "within each race there are further variations, continuous in gradation and of the same nature as those appearing in a more mixed population, which are unmistakable evidences of the instability of characters and hereditary units."—MERLE C. COULTER.

New-place effect.—COLLINS¹⁰ has performed a rather unusual experiment with maize, testing the immediate effect of transferring various races to new habitats. We have abundant testimony that it is unwise to go very far from home for seed corn, and have generally concluded that local corn has become the best adapted to local conditions as the result mainly of artificial selection, whether conscious or unconscious. In accordance with this we should naturally suppose that to transfer seed would depress its yield (for a few generations at least). COLLINS, however, shows that while Texas seed of a given strain, planted side by side in Maryland with Maryland seed of the same strain, exceeds the latter in yield by 8 per cent; when the two are grown in Texas the Texas seed exceeds in yield the Maryland seed by only 2 per cent. It seems that the transfer of Maryland seed has acted as a stimulus to relatively greater yield. This phenomenon is termed "new-place" effect. It adds a further complication to the already perplexing problem of vigor in maize.—MERLE C. COULTER.

Dominance and parasitism.—JONES¹¹ finds support of his theory¹² that dominance accounts for hybrid vigor, from observations on susceptibility to parasitism in maize. It has hitherto been demonstrated by several investigators that resistance to parasitism behaves as a definite heritable factor. JONES shows that inbreeding corn serves to isolate certain homozygous races which are susceptible to smut and leaf blight while the more heterozygous ancestors are resistant. He concludes that "as in so many other cases, those factors which enable an organism to attain the best development tend to dominate." Thus, in general, the most heterozygous corn, which therefore shows the greatest hybrid vigor, will be the most resistant. A difficulty arises here, since certain diseases are known to thrive best in the most vigorous plants. It might be possible to account for this difference on the ground that certain diseases are immediately destructive to the host while others are not; although if this were true, JONES's leaf blight disease and smut should behave differently.—MERLE C. COULTER.

¹⁰ COLLINS, G. N., New-place effect in maize. *Jour. Agric. Research* 12:231-243. 1918.

¹¹ JONES, DONALD F., Segregation of susceptibility to parasitism in maize. *Amer. Jour. Bot.* 5:295-300. 1918.

¹² *Rev. Bot. Gaz.* 66:70. 1918.